

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An insulating element in the form of a plate or roll felt for shipbuilding, comprising mineral fibers, made of bonded fibers soluble in a physiological agent, wherein the insulating element may be utilized as fire and/or thermal and/or sound protection, wherein the composition of the mineral fibers of the insulating element amounts to an alkali/alkaline-earth mass ratio of < 1 , wherein the insulating element is comprised of a bead portion in the mineral fibers in an amount $< 1\%$ of the insulating element as well as by an average geometrical fiber diameter of $\leq 4\text{ }\mu\text{m}$, a surface weight of 0.8 through 4.3 kg/m^2 , and wherein a portion of a bonding agent of the insulating element in relation to the mineral fibers is in the range of 0.5 through 4% by weight;

wherein the weight per unit area of the insulating element with a Fire Resistance Category A15 or similar is in the range of about 0.8 to 1.4 kg/m^2 , with a Fire Resistance Category A30 or similar, about 1.2 to 1.8 kg/m^2 , and with a Fire Resistance Category A60 or similar, about 2.0 to 2.5 kg/m^2 ; and

wherein the insulating element is compressible in a minimum ratio of 2:1, corresponding to an upper gross density up to 50 kg/m^3 , and is further compressible in a minimum ratio of 3:1, corresponding to an upper gross density up to 30 kg/m^3 .

2. (Previously Presented) The insulating element according to claim 1, wherein the bonding agent is an organic bonding agent.

3. (Previously Presented) The insulating element according to claim 1, wherein the portion of the bonding agent, in relation to the mineral fibers of the insulating element, lies within the range of 0.5 to 3% by weight.

4. (Canceled)

5. (Currently Amended) The insulating element according to claim 1, adapted for the insulation of a vessel's bulkhead, An insulating element in the form of a plate or roll felt for shipbuilding, comprising mineral fibers, made of bonded fibers soluble in a physiological agent, wherein the insulating element may be utilized as fire and/or thermal and/or sound protection,

wherein the composition of the mineral fibers of the insulating element amounts to an alkali/alkaline-earth mass ratio of < 1 , wherein the insulating element is comprised of a bead portion in the mineral fibers in an amount $< 1\%$ of the insulating element as well as by an average geometrical fiber diameter of $< 4\ \mu\text{m}$, a surface weight of 0.8 through $4.3\ \text{kg/m}^2$, and wherein a portion of a bonding agent of the insulating element in relation to the mineral fibers is in the range of 0.5 through 4% by weight;

wherein the weight per unit area of the insulating element with a Fire Resistance Category A15 or similar is in the range of about from 0.8 to $1.4\ \text{kg/m}^2$, with a Fire Resistance Category A30 or similar, from 2.3 to $3.0\ \text{kg/m}^2$, and with a Fire Resistance Category A60 or similar, from 3.2 to $4.3\ \text{kg/m}^2$; and

wherein the insulating element is compressible in a minimum ratio of 2:1, corresponding to an upper gross density up to $50\ \text{kg/m}^3$, and is further compressible in a minimum ratio of 3:1, corresponding to an upper gross density up to $30\ \text{kg/m}^3$.

6. (Previously Presented) The insulating element according to claim 1, wherein the insulating element features an λ -value of $\leq 35\ \text{mW/mK}$.

7. (Canceled)

8. (Canceled)

9. (Previously Presented) The insulating element according to Claim 1 wherein the insulating element is in the form of roll felt, wherein the composition of the mineral fiber of the insulating element amounts to an alkali/alkaline-earth mass ratio of < 1 , wherein the fiber structure of the insulating element is determined by an average geometrical fiber diameter of $\leq 4\ \mu\text{m}$ and the roll felt is substantially in the form of a stepped wire mat, whose utilization temperature is $> 500\ ^\circ\text{C}$ with gross densities between 45 and $75\ \text{kg/m}^3$, and wherein the bonding agent content is about $< 2\ \text{weight}\%$.

10. (Previously Presented) The insulating element according to claim 1, wherein the mineral fibers of the insulating element are manufactured by internal centrifugation in a centrifuge basket procedure, wherein the temperature at the centrifugation basket is at least $1,100^\circ\text{C}$.

11. (Previously Presented) The insulating element according claim 1, wherein the insulating element is operatively associated with a vessel's frames.

12. (Previously Presented) The insulating element according to claim 11, wherein the insulating element further comprises at least one lamination, selected from one of an aluminum foil or a glass cloth fleece, being applied in such a manner around the frames of a vessel such that it encloses the insulating element and the at least one lamination in one processing step exempt of a thermal bridge.

13. (Previously Presented) The insulating element according to claim 1, wherein the mineral fibers of the insulating element correspond, regarding their solubility in a physiological agent, to at least one of the requirements of the European guideline 97/69/EG and the requirements of the German dangerous material regulation exp. IV NR. 22.

14. (Currently Amended) The insulating element according to claim 13, wherein the ranges of the chemical composition of the mineral fibers are as follows:

SiO ₂	39-55 %	preferably	39-52 %
Al ₂ O ₃	16-27 %	preferably	16-26 %
CaO	6-20 %	preferably	8-18 %
MgO	1-5 %	preferably	1-4.9 %
Na ₂ O	0-15 %	preferably	2-12 %
K ₂ O	0-15 %	preferably	2-12 %
R ₂ O (Na ₂ O + K ₂ O)	10-14.7 %	preferably	10-3.5 %
P ₂ O ₅	0-3 %	especially	0-2 %
Fe ₂ O ₃ (iron total)	1.5-15 %	especially	3.2-8 %
B ₂ O ₃	0-2 %	preferably	0-1 %
TiO ₂	0-2 %	preferably	0.4-1 %
Other	0-2.0 %	-----	-----

15. (Canceled)